A Comparative Study of the Intelligence of Negro Children

by Edith Winn

1919

Submitted to the Department of Education and the faculty of the Graduate School of the University of Kansas in partial fulfillment of the requirements for the Degree of Master of Arts.

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Approved: Raymond A. Schweg
Department of Education.

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CHAPTER I.

INTRODUCTION.

Who can imagine a more heterogeneous picture than mankind presents? A superficial glance reveals differences in the physical qualities of form, feature, and color. A more careful survey discloses marked differences in intellectual and social development. Science has studied all these variations with the view of ascertaining both their cause and effect. Many are the instances, however, where science has not been applied but opinion has held sway.

We are told by scientists that when time began the world was peopled by but one race; that the breach which now exists between the white and black race was brought about by the operation of natural causes. The spirit of adventure which led man away from his birthplace was the initial force in the metamorphosis which followed. In his new environment, he was forced to devise means for securing food. That group of people who were less adventurous than their brothers remained in an environment not favorable for development. Food was abundant and this fact together with the intense heat of a tropical climate operated to develop that care-free, indifferent, irresponsible human race known as the negro.

But in whatever manner came about the origin of this race, the fact remains that the characteristic mental attitude is just as much a heritage of the negro race as is the color of the skin, the characteristic features, the spiral growth of the hair. This is the negro as natural causes have operated to make him.

Three centuries ago a part of the race was transplanted by force from its habitat to the shores of America. The slave trade became an exceedingly lucrative occupation. Ere the American Colonies realized the enormity of the problem they were creating for themselves, slavery had forged a chain operative even today for both the white and black population. Almost without exception the negro submitted peacefully to servitude. This fact, together with the circumstances of his capture, was due, no doubt, to his modest mental capacity. Usually slaves were taken from the lower strata of the savage tribes, a chief being captured only in rare instances. Thus our forefathers were left the heritage of slavery. Then as the moral standards of the white population improved there gradually grew up a sentiment against slavery, the final outcome being a heritage to our fathers and ourselves of an emancipated race, simple, childlike, faithful yet irresponsible, dependent upon their former masters as children upon a father. There is a tendency among the

white people of our land to regard the negro as indebted to them for his emancipation, forgetting, seemingly, that the debt we as a nation owe to him is far greater. That great leader of his race, Booker T. Washington, once said,[13] "When people are bold enough to suggest that the education of the negro is a failure, I reply that it has not been tried. The fact is that 44.5 per cent. of the colored people of this country today are illiterate..... In the former slave states 90 per cent. of the negro children of school age did not attend school for six months during the year of 1900." Doubtless these figures have not been materially changed within the past twenty years. Most certainly he displays unusual wisdom and judgment when he says,[13] "When any people, regardless of race or geographical location, have not been trained to habits of industry, have not been given skill of hand in youth, and taught to love labor, a direct result is the breeding of a worthless, idle class which spends its time trying to live by its wits. Mere training of the hand without mental and moral education would mean little for the welfare of any race." So the way has been shown us. Even at the present time, how small a proportion of the race is given skill of hand, together with mental and moral education,

and is taught to love labor! When we as a nation realize our heritage and thoroughly comprehend the problems pertaining to it, and face the situation squarely, a comparative study of the mental ability of whites and negroes can be made with a greater degree of fairness and justice to the latter.

Doubtless each of the conclusions derived from this study will concur with some of the opinions held by one or another of all those who have ever given any thought to the race question. One contends that the negro is the equal of the white race intellectually; another, that a great, intellectual gap separates the two races; and the opinions between these two extremes are as numerous and varied as the people holding them.

This study was undertaken with a goodly store of personal opinion relative to the equality of racial intellectual endowment. This notion was not founded upon evidence nor formed as a result of experience. Conclusions were reached in a wholly unscientific way. An earnest attempt has been made, in this study, to measure facts as they actually exist; and the views herewith presented are not personal opinion but are based upon measured facts.

(Numbers used refer to bibliography, pages 50 & 51 .)

CHAPTER II.

PROBLEM AND HISTORICAL DATA.

This study, brief and incomplete as it is, is a limited attempt to solve the problem of the mental endowment of the negro. Precisely stated, the problem presents three phases:

First, to determine what differences, if any, exist between white and colored children in native intellectual endowment.

Second, to ascertain the relative mental endowment of colored boys and colored girls.

Third, to determine which of the various tests employed show the greatest degree of difficulty for the colored children and which show the least; or stated in other terms, in what mental processes do colored children function most adequately.

The last 10 years have witnessed a decided step in the direction of scientific investigation along lines which, heretofore, have been left to the indulgence of observation and personal opinion. The question of racial intellectual equality or inequality is no exception to this statement. This present chapter will be devoted to an abridged review of the work which has been done along the line of investigation relating to the race problem.

Numerous studies, both experimental and other-

wise, have been made of the negro. Many have been of physical characteristics alone. A less number have been attempts to measure actual mental endowment. For this purpose a great variety of tests has been used. The first attempt to measure the mental endowment of the negro by means of the Binet tests was made in 1913 by Miss Alice C. Strong.[11] This experiment was reported by her and also by Josiah Morse.[7] The same tests were given to 225 white and 125 colored children of the schools of Columbia, South Carolina. With the exception of the fact that some of the colored children were more than 12 years old, the ages ranged from 6 to 12 years inclusive.

Morse,[7] in reporting the study, made note of the following facts. The per cent. of colored children more than one year backward was 29.4 as compared with 10.2 of the white children. Those testing satisfactory, 69.8 per cent. colored and 84.4 per cent. whites. Those more than one year advanced, .8 per cent. colored and 5.3 per cent. whites. Attention is called to the fact that nearly three times as many colored as white children are more than one year backward. An attempt was made to make the comparisons more just by dividing the white children into two groups, city children and mill children. A comparison of the colored school with the

mill school showed a decidedly greater similarity in mental ability, which leads one to conclude that environment is a very prominent factor to be considered. While a low grade of mentality is often accompanied by low grade environmental conditions, it is not true to say that the former is a product of the latter. Much more to the point would it be to say that unfavorable environment is fostered by a low type of mentality. The reader will please bear in mind also that in South Carolina separate schools are maintained for the two races. Morse comments briefly upon the achievement in particular tests, then in a survey of all he says: "In general it may be said that the colored children excel in rote memory, e.g., in counting, repeating digits (but not one was able to repeat 26 syllables), naming words, making rhymes, and in time orientation. They are inferior to the whites, however, in aesthetic judgment, observation, reasoning, motor control, logical memory, use of words, resistance to suggestion, and in orientation or adjustment to the institutions and complexities of civilized society." In a study of pedagogical retardation, he has this to say: "Another table of statistics showed that the colored children made a better showing in the first five grades than in the first seven, but their inferiority to the whites existed throughout the

school years. According to the Binet scale, a larger number of white children are in a school grade below their mental ability than above, whereas the reverse is true of the colored children."

Miss Strong[11] who applied the tests and whose report was made mention of above, divided the negroes into three classes according to color. She says in part, "This classification was not a scientific one, and the statement of results may be entirely worthless..... The darkest children are more nearly normal, the lightest show the greatest variation, both above and below normal."

Morse's[7] concluding remarks are, in part, as follows: "No final conclusions are here offered, nor is any attempt made to settle once and for all the question of race superiority or inferiority. That requires investigation along many lines hardly opened up as yet. But this much we may surely conclude from the above study: that negro children from 6 to 12 years, and possibly 15 years, are mentally different and also younger than southern white children of corresponding ages."

Bruner,[2] in a review of Miss Strong's study brings out this fact. "The tables show another interesting point on which the author makes no comment. At the

ages of 6, 7, and 8 just about twice as many negro children as white rate below age, whereas for the ages of 10, 11, and 12 the superiority of the whites over the negroes is but slight. This suggests that the rate of maturing may be more rapid with the negro children, so as to make them older, mentally, at the age of 12 than white children of the same age."

Seemingly the last statement quoted and the last one in the preceding paragraph conflict. It appears to the writer that Bruner has not said just what he meant to say since he admits a superiority, though slight, of the whites at the ages of 10, 11, and 12 years. Doubtless he has meant to convey the idea that the mental age of the negro at 12 years of age is a higher per cent. of his mature mental age than that of white children at the age of 12 years.

Phillips,[8] in a study made in 1912 of the retardation in the elementary schools of Philadelphia found that the percentage of retardation in schools attended entirely by colored pupils ranged from 58.2 to 72.8, whereas the range of retardation of the districts in which these schools were located was 33.3 to 45.1. The average for the entire city was 40.3. These facts led him to apply the Binet tests to 137 white and 86 colored

children of the same chronological age and home conditions in an attempt to learn the cause of retardation. Phillips says:[8] "The home of each of these 223 pupils was visited and the home conditions noted, as Excellent, Good, Fair, and Poor. In so rating the home, the material (money), intellectual, and moral elements were noted in making up the rating. In the following comparison only the white children of excellent home conditions are compared with the colored children of excellent home conditions: the white of good home conditions with the colored of good home conditions, and so on. This method of procedure, of course, necessitated the elimination of quite a number of those tested, so that our final comparison was made on 29 each of colored boys and girls respectively." Phillips found that 37.9 per cent. of white boys, 46.4 per cent. of white girls, or 42.1 per cent. of white boys and girls combined were retarded as compared with 65.5 per cent. of colored boys, 71.4 per cent. of colored girls, or 68.4 per cent. of colored boys and girls who were retarded, the retardation for the colored children being between 20 and 30 per cent. greater than for the whites. In a general survey of the reactions to the tests, Phillips says: ".....colored pupils as a class were good in the memory tests and poor in those requiring judgment.

They were generally slower in response. The testing of the colored children took a much longer time than the white.....It is significant to note that the younger white children were more advanced than the colored children of the same age. This in contradiction to the generally accepted fact that colored children are quicker when young." This latter statement is in harmony with Bruner's findings in Miss Strong's report where he says, "At the ages of 6, 7 and 8 just about twice as many negro children as white rate below age." (See page 9.)

Lacy,[5] in a study of 100 retarded pupils in the fourth grade schools of Evanston, Illinois has the following to say: "We find that the distribution of the whites more nearly approximates the normal curve than does that of the whole group, and that the colored children are markedly inferior in intelligence to the group as a whole. The difference in the distribution of intelligence quotients of the colored children and of the white children is very marked.....Distributing the children in groups by their mental age, we find that the median intelligence quotient of the white children is at every age superior to the median intelligence quotient of the colored. This means that the mental age and the chronological age of the white child is less

widely separated than that of the colored child..... On the whole, the intelligence of the colored children is inferior to that of the whites."

As previously mentioned, a great variety of tests has been used and various methods have been employed in attempting to measure the negro's mentality. E. g., association[9] and memory tests,[10] investigations of school marks,[6] substitution tests,[1] quickness of learning,[9] word-building,[9] ink-blot tests,[9] cancellation tests,[4] completion tests,[4] etc. Wherever the results of these tests have any bearing upon various tests in the Binet series used in this study, further mention will be made of them.

(For references, see bibliography, pages 50 & 51.)

CHAPTER III.

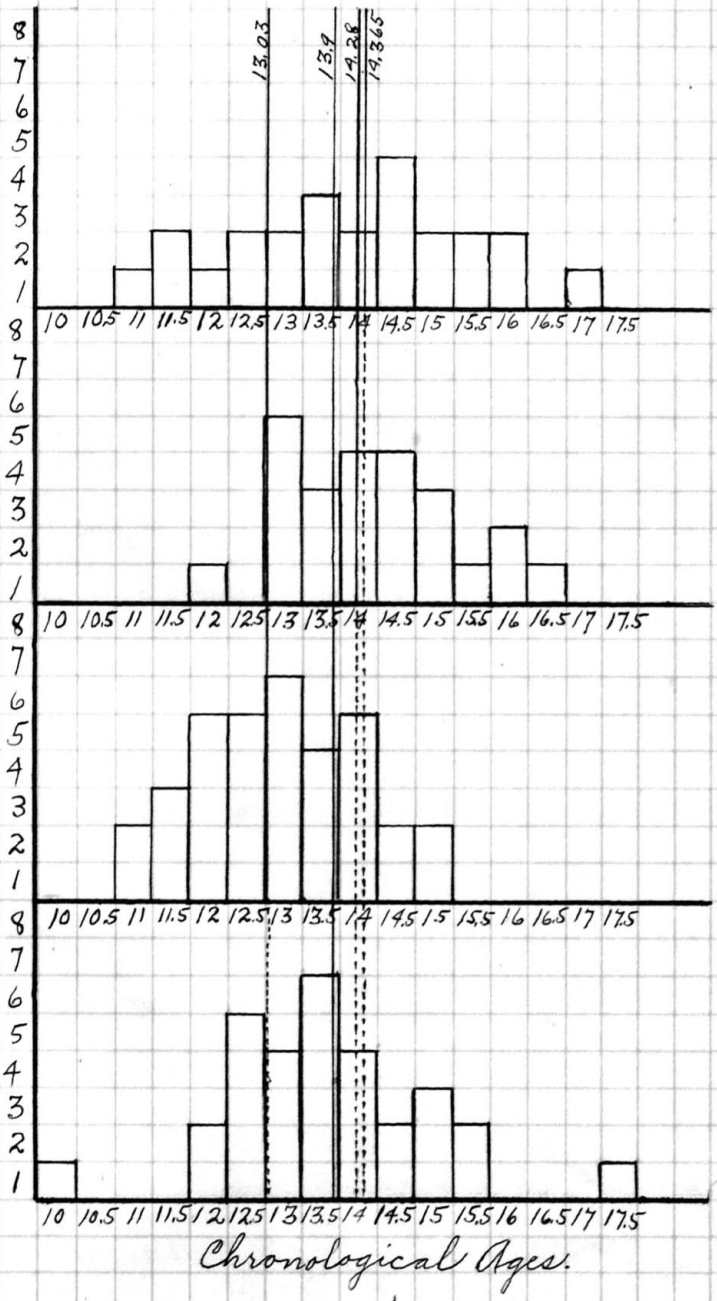
SPECIFIC STUDY.

The data upon which this study is based were secured through the application of the Stanford Revision of the Binet tests, arranged for point scale use, to 116 pupils in the Lawrence Junior High School, grades VII and VIII. The total colored enrollment in this school was 58, there being 24 boys and 34 girls. A chance selection of an equal number of white boys and white girls was made by the writer, who had access to the enrollment cards of the school and to whom the names, with a single exception, were wholly unfamiliar. These 24 white boys and 34 white girls, together with the 58 colored boys and girls, were given the series of tests under uniform conditions.

The children were tested, one at a time, the time required for each child varying from one to two hours, depending upon the promptness of the child's response to each test. Three rooms in the building, Central School, which were in use only a part of each day for class work, were used, when otherwise unoccupied, for "test" rooms. The testing of these children was begun near the close of January, 1919, and was completed the last day of April. With the exception of 36 children, comprising both races, the subjects were all tested by

the writer. In many instances, the colored children appeared more at ease with the examiner than did the white children, some of whom seemed nervous and fearful of "failing" the test, whereas the latter factor seemed to be alien to the colored child's mind. With very few exceptions, the colored children manifested a willing attitude and were as interested and attentive as were the white children. Considering the fact that the two races have identical school advantages and opportunities, and that environmental conditions are perhaps as nearly equal as any place within the United States, the conclusions derived from a study of these data should have at least a fair degree of reliability.

In grades VII and VIII we expect the age to be somewhere near 12, 13, or 14 years. As a matter of fact, we find them ranging from 10.33 years to 17.74 years. In connection with this matter, attention is invited to the fact that we find the two extremes of the total distribution belonging to the distribution for the colored girls. In the distribution of the age of the whites we find the extremes, 11.46 and 17.2, going the one to the girls, the other to the boys. In addition to presenting the lowest limit in the chronological age distribution for the whites, the white girls show also the lowest mean age, while we find the colored boys showing



Median, 14.365
White Boys.

Median, 14.28
Colored Boys.

Median, 13.03
White Girls.

Median, 13.9.
Colored Girls.

the highest mean age. However, the white boys deviate farthest from the mean with the colored girls a close second. When we consider the two races, we find the whites possessing a mean chronological age lower by .6 of a year, but a deviation from the mean a half of one per cent. higher. Almost 33 per cent. of the white children are older than the mean age of the colored, but on the other hand, we find 67 per cent. of the colored children older than the mean age of the whites.

	CHRONOLOGICAL AGE: RANGE	MEDIAN	MEAN	σ	V
Colored Girls	10.33-17.74	13.9	13.98	1.42	10.1%
Colored Boys	12-16.5	14.28	14.36	1.09	7.6%
White Girls	11.46-15.26	13.03	13.14	1.01	7.7%
White Boys	11.48-17.2	14.365	14.11	1.51	10.7%
Colored Group	10.33-17.74	14.065	14.14	1.308	9.25%
White Group	11.46-17.2	13.47	13.54	1.33	9.8%

	CHRONOLOG. AGE: Colored Girls	CHRONOLOG. AGE: Colored Boys	MENTAL AGE: Colored Girls	MENTAL AGE: Colored Boys	INTELLI. QUOTIENT: Colored Girls	INTELLI. QUOTIENT: Colored Boys
1	10.33	.....	14	.....	1.36	.....
2	.....	12	.....	14.8	.....	1.23
3	12.2	.....	9.4	.....	.77	.....
4	12.25	.....	12.6	.....	1.03	.....
5	12.5	.....	11	.....	.89	.....

(Continued)

	CHRONOLOG. AGE		MENTAL AGE		INTELLI. QUOTIENT	
	Colored Girls	Colored Boys	Colored Girls	Colored Boys	Colored Girls	Colored Boys
6	12.66		11.4		.90	
7	12.7		12.6		.99	
8	12.75		12.4		.97	
9	12.75		13.		1.02	
10	13.		14.6		1.12	
11		13		11.2		.86
12		13		14.		1.08
13	13.13		11.8		.90	
14	13.16		12.2		.92	
15	13.16		11.8		.90	
16		13.4		12.4		.93
17		13.4		11.8		.88
18		13.4		12.		.89
19		13.5		11.6		.86
20	13.55		14.4		1.06	
21	13.58		11.8		.87	
22	13.60		11.6		.85	
23		13.66		12.6		.92
24	13.8		11.8		.86	
25	13.9		12.4		.89	
26	13.9		14.		1.00	
27		13.92		13.		.93
28		14.03		14.6		1.04
29	14.05		12.2		.86	
30	14.08		13.		.92	
31		14.17		11.6		.82
32		14.26		13.		.91
33		14.3		12.8		.90
34	14.35		11.		.76	
35	14.4		11.6		.80	
36	14.5		10.4		.72	
37		14.5		15.2		1.05
38		14.6		9.6		.66
39	14.6		13.		.89	
40	14.66		12.		.82	
41		14.66		11.4		.78
42		14.8		13.4		.90
43	14.9		13.8		.93	
44	15.		14.2		.95	
45	15.08		10.8		.72	
46		15.08		10.2		.68
47		15.2		14.2		.93
48		15.25		13.		.85
49	15.56		12.2		.78	
50	15.6		14.4		.92	

(Continued)

	CHRONOLOG. AGE		MENTAL AGE		INTELLI. QUOTIENT	
	Colored Girls	Colored Boys	Colored Girls	Colored Boys	Colored Girls	Colored Boys
51	15.6		12.		.77	
52		15.6		12.8		.82
53		16.08		10.4		.65
54	16.25		11.2		.70	
55	16.25		10.6		.66	
56		16.33		10.4		.65
57		16.5		14.		.88
58	17.74		10.2		.64	

	CHRONOLOG. AGE		MENTAL AGE		INTELLI. QUOTIENT	
	White Girls	White Boys	White Girls	White Boys	White Girls	White Boys
1	11.46		14.8		1.29	
2	11.46		13.8		1.20	
3		11.48		14.		1.22
4		11.6		14.2		1.22
5	11.63		14.6		1.26	
6	11.75		13.8		1.17	
7		11.78		14.6		1.24
8	11.97		15.		1.25	
9	12.06		12.		1.00	
10	12.1		16.6		1.37	
11	12.17		12.		.99	
12		12.33		13.4		1.09
13	12.4		13.2		1.06	
14	12.46		16.		1.28	
15		12.54		13.6		1.08
16	12.56		15.		1.19	
17	12.67		15.4		1.22	
18	12.72		13.2		1.04	
19	12.8		14.4		1.12	
20		12.8		16.		1.25
21	12.9		13.6		1.05	
22	13.		14.2		1.09	
23	13.		16.		1.23	
24		13.04		15.6		1.20
25	13.06		14.4		1.10	
26	13.14		14.2		1.08	
27	13.3		13.		.98	
28	13.44		12.6		.94	
29		13.44		13.6		1.01
30	13.5		13.8		1.02	
31	13.54		13.4		.99	

(Continued)

	CHRONOLOG. AGE		MENTAL AGE		INTELLI. QUOTIENT	
	White Girls	White Boys	White Girls	White Boys	White Girls	White Boys
32		13.56		13.6		1.00
33		13.62		13.8		1.01
34		13.83		14.6		1.06
35	13.84		11.		.79	
36	13.86		13.		.94	
37	14.		10.4		.74	
38	14.03		12.4		.88	
39	14.07		14.		1.00	
40	14.27		15.8		1.11	
41	14.33		15.2		1.06	
42		14.33		12.4		.87
43		14.4		12.2		.85
44	14.5		12.4		.86	
45		14.56		13.6		.93
46		14.61		14.		.96
47		14.64		14.2		.97
48	14.66		14.6		1.00	
49		14.73		13.		.88
50	15.03		12.6		.84	
51		15.08		15.4		1.02
52	15.26		10.2		.67	
53		15.32		13.		.85
54		15.58		9.6		.62
55		15.64		10.		.64
56		16.17		11.6		.73
57		16.25		11.		.67
58		17.2		12.6		.79

Class Interval	Fre. C.G.	Fre. C. B.	Fre. W. G.	Fre. W. B.	Fre. C.Gr'p.	Fre. W,Gr'p.
10-10.5	1	0	0	0	1	0
10.5-11	0	0	0	0	0	0
11-11.5	00	0	2	1	0	3
11.5-12	0	0	3	2	0	5
12-12.5	2	1	5	1	3	6
12.5-13	5	0	5	2	5	7
13-13.5	4	5	6	2	9	8
13.5-14	6	3	4	3	9	7
14-14.5	4	4	5	2	8	7
14.5-15	4	4	2	4	8	6
15-15.5	2	3	2	2	5	4
15.5-16	3	1	0	2	4	2
16-16.5	2	2	0	2	4	2

(Continued)

Class Interval	Fre. C. G.	Fre. C. B.	Fre. W. G.	Fre. W. B.	Fre. C.Gr'p.	Fre. W.Gr'p.
16.5-17	0	1	0	0	1	0
17-17.5	0	0	0	1	0	1
17.5-18	1	0	0	0	1	0
Median	13.9	14.28	13.03	14.36	14.065	13.47
Mean	13.98	14.36	13.14	14.11	14.14	13.54
σ	1.42	1.09	1.01	1.51	1.308	1.33
V	10.1%	7.6%	7.7%	10.7%	9.25%	9.8%

Note: The median, mean, σ, and V have not been computed from this distribution table, but from the actual distribution table, pages 15, 16, 17, and 18.

In a study of the mental ages, we find the colored girls ranking lowest here as well as in the chronological age. Note also that the other limit in the range of this distribution is lower than the upper limit in any of the other distributions. (See table below.) Their mean mental age is the lowest as is also the per cent. of variability. The colored boys do not reach as low a mental age as do the colored girls by .2 of a year and the former exceed the latter by .6 of a year, exceeding them also in mean mental age by .3 of a year. The colored boys vary 1.5 per cent. more from their mean age than do the colored girls; in fact, their variability is 12 per cent. of their mean age, being

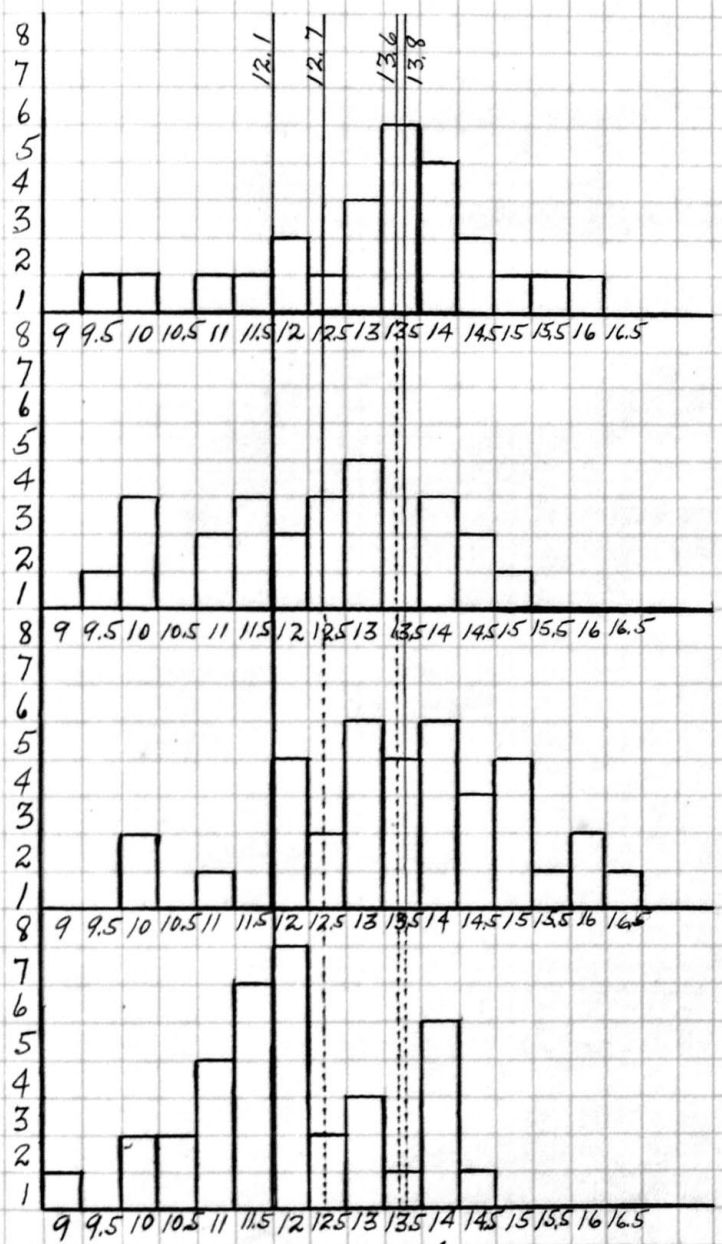
higher than for any other group. The white boys reach the same lower limit in the range of their distribution as do the colored boys, but exceed the latter in the upper limit by .8 of a year. The mean mental age of the white boys is also in excess of the colored boys' age by .8 of a year but the coefficient of variability is slightly less. We find that the white girls do not reach as low a mental age by .6 of a year as do any of the other groups and that they exceed all others by the same fraction. Although we found their mean chronological age to be lowest for the various groups, here we find their mean mental age to be the highest. In considering the two races, we find the whites exceed the colored group by 1.25 years in mean mental age and we also find the variability greater for the former. 22.5 per cent. of the colored children exceed the mean mental age of the whites, whereas 82.8 per cent. of the whites exceed the mean mental age of the colored and 15.5 per cent. of the whites exceed the highest mental age reached by the colored.

(See following page for mental age tables.)

	MENTAL AGE: RANGE	MEDIAN	MEAN	σ	V
Colored Girls	9.4-14.6	12.1	12.2	1.29	10.5%
Colored Boys	9.6-15.2	12.7	12.5	1.5	12%
White Girls	10.2-16.2	13.8	13.7	1.5	10.9%
White Boys	9.6-16	13.6	13.3	1.56	11.7%
Colored Group	9.4-15.2	12.2	12.3	1.37	11.14%
White Group	9.6-16.6	13.7	13.55	1.56	11.51%

Class Interval	Fre. C. G.	Fre. C. B.	Fre. W. G.	Fre. W. B.	Fre. C.Gr'p.	Fre. W.Gr'p.
9-9.5	1	0	0	0	1	0
9.5-10	0	1	0	1	1	1
10-10.5	2	3	2	1	5	3
10.5-11	2	0	0	0	2	0
11-11.5	4	2	1	1	6	2
11.5-12	6	3	0	1	9	1
12-12.5	7	2	4	2	9	6
12.5-13	2	3	2	1	5	3
13-13.5	3	4	5	3	7	8
13.5-14	1	0	4	5	1	9
14-14.5	5	3	5	4	8	9
14.5-15	1	2	3	2	3	5
15-15.5	0	1	4	1	1	5
15.5-16	0	0	1	1	0	2
16-16.5	0	0	2	1	0	3
16.5-17	0	0	1	0	0	1
Median	12.1	12.7	13.8	13.6	12.2	13.7
Mean	12.2	12.5	13.7	13.3	12.3	13.55
σ	1.29	1.5	1.5	1.56	1.37	1.56
V	10.5%	12%	10.9%	11.7%	11.14%	11.51%

Note: The median, mean, σ, and V have been computed from the actual distribution tables, pages 15, 16, 17, & 18.

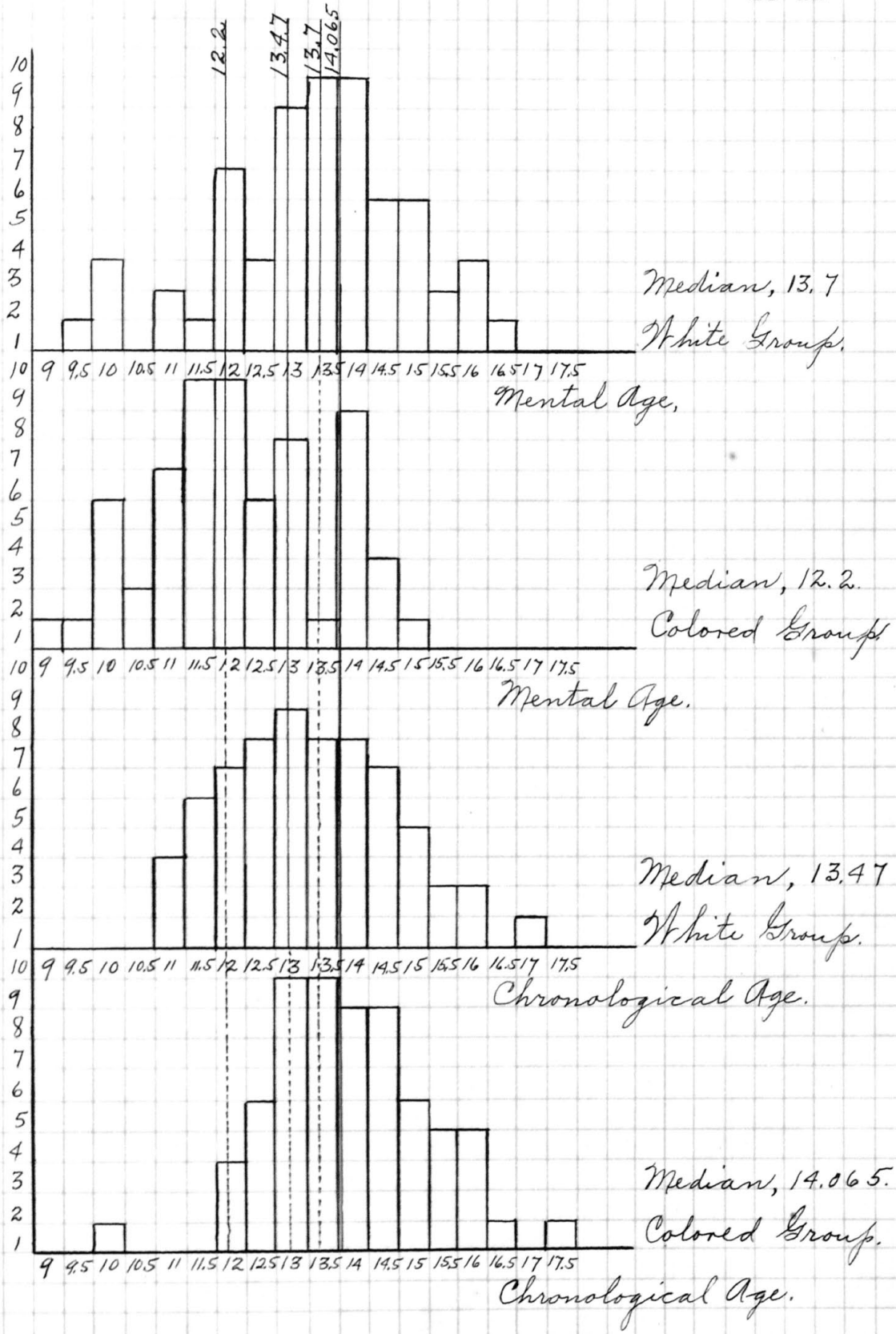


Median, 13.6
White Boys.

Median, 12.7
Colored Boys.

Median, 13.8
White Girls.

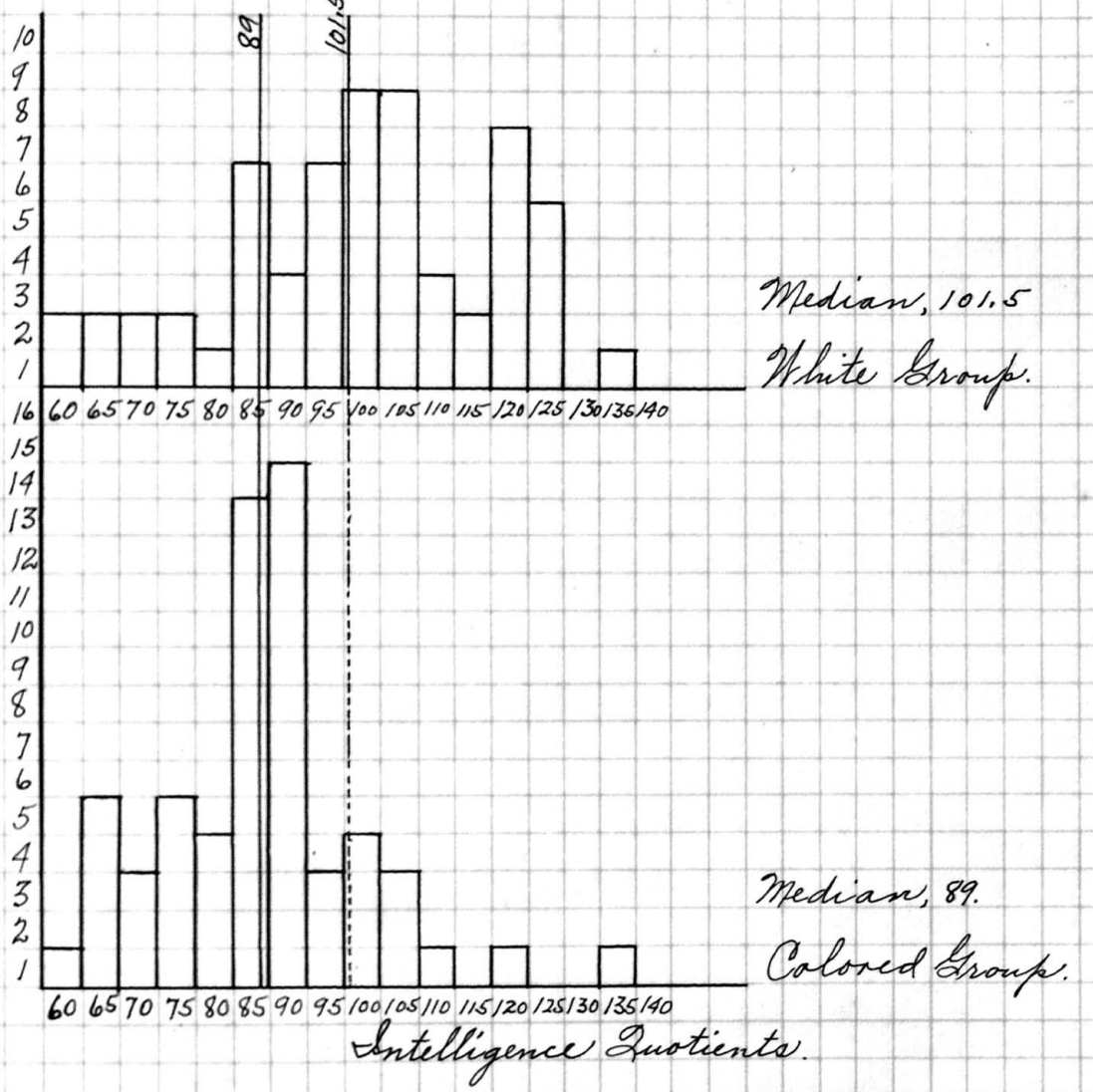
Median, 12.1
Colored Girls.


12.2
13.47
13.7
14.065
Median, 13.7
White Group.
Mental Age.
Median, 12.2.
Colored Group.
Mental Age.
Median, 13.47
White Group.
Chronological Age.
Median, 14.065.
Colored Group.
Chronological Age.

But the intelligence quotient (ratio of mental age to chronological age) is most significant of the actual facts. At this point, I wish to say that in calculating the I. Q. the chronological age beyond 16 years is disregarded, since, according to Terman,[12] "Native intelligence, in as far as it can be measured by tests now available, appears to improve but little after the age of 15 or 16 years..... It will be sufficiently accurate for our purpose to assume its location at 16 years." The colored girls reach one point lower than do the colored boys but the former also exceed the latter by 13 points. However, their mean I. Q.'s are nearly identical, being .89 for the girls and .88 for the boys, with the same coefficient of variability. The colored boy earning the highest I. Q. was one whose color was so light that, save for the spiral growth of the hair, he might easily have been mistaken for a white boy. Miss Strong[11] found those colored children who were lightest in color showing the greatest variation. (See page 8.) We find one white boy presenting an I. Q. of .62, lower than any of the colored children, and one white girl only exceeds the highest I. Q. made by the colored children. (It is worthy of mention, however, that two white girls who

were given the tests earned I. Q.'s, the one of 1.43 and the other of 1.46; however, they did not "chance" to be selected and their data are not included in this study.) The mean I. Q. of the whites exceeds that of the colored by 13.36 points. We also find the variation from the mean or average greater for the whites than for the colored, which is in harmony with Mayo's[6] findings. 15.5 per cent. of the colored children exceed the mean I. Q. of the white children, while 74 per cent. of the whites exceed the mean I. Q. of the colored. 53.4 per cent. of the colored children fall below .90, the point designated by Terman[12] as signifying normal intelligence, while 26 per cent. of the white children also fail to reach this mark. Only 5 per cent. of the colored children possess superior intelligence or better (I. Q. 1.10+), whereas 31 per cent. of the white children do.

		INTELLIGENCE QUOTIENT:			
	RANGE	MEDIAN	MEAN	σ	V
Colored Girls	.64-1.36	.89	.89	1.4	1.5%
Colored Boys	.65-1.23	.885	.88	1.35	1.5%
White Girls	.67-1.37	1.055	1.05	1.6	1.5%
White Boys	.62-1.25	.985	.97	1.8	1.9%
Colored Group	.64-1.36	.89	.8834	1.38	1.57%


89
101.5
Median, 101.5
White Group.
60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140
Median, 89.
Colored Group.
Intelligence Quotients.

	INTELLIGENCE QUOTIENT: (Continued)				
	RANGE	MEDIAN	MEAN	σ	V
White Group	.62-1.37	1.015	1.017	1.77	1.74%

Class Interval	Fre. C. G.	Fre. C. B.	Fre. W. G.	Fre. W. B.	Fre. C.Gr'p.	Fre. W.Gr'p.
.60-.65	1	0	0	2	1	2
.65-70	1	4	1	1	5	2
.70-.75	3	0	1	1	3	2
.75-.80	4	1	1	1	5	2
.80-.85	2	2	1	0	4	1
.85-.90	7	6	2	4	13	6
.90-.95	7	7	2	1	14	3
.95-1.00	3	0	3	2	3	5
1.00-1.05	3	1	5	4	4	9
1.05-1.10	1	2	5	3	3	8
1.10-1.15	1	0	3	0	1	3
1.15-1.20	0	0	2	0	0	2
1.20-1.25	0	1	3	4	1	7
1.25-1.30	0	0	4	1	1	5
1.30-1.35	0	000	0	0	0	0
1.35-1.40	1	0	1	0	1	1
Median	.89	.885	1.055	.985	.89	1.015
Mean	.89	.88	1.05	.97	.8834	1.017
σ	1.4	1.35	1.6	1.8	1.38	1.77
V	1.5%	1.5%	1.5%	1.9%	1.57%	1.74%

Note: The median, mean, σ, and V have been computed from the actual distribution as given in the tables, pages 15, 16, 17, and 18.

A study of the reactions to the individual tests of the series used is extremely worth while. For the first test, a series of four pictures is presented,

Name No.

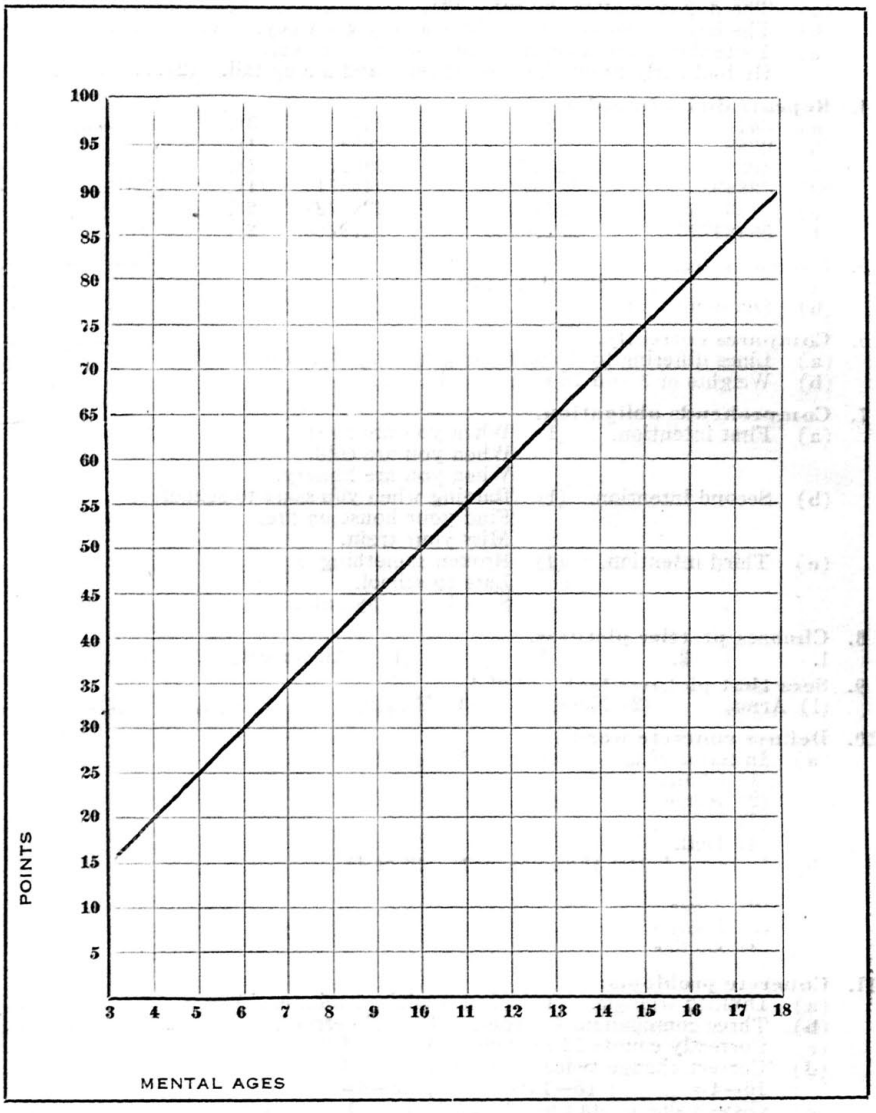
Nationality Race Sex

Date of birth School grade Social standing

Credits Mental age I. Q.

Deviation from normal = points

General conclusions



Tested by Date

Conditions of test

K. U. Ed. Lab.-S-1918 1st Ed. 7-2932

ATTACK		
FREE ASSOCIATION		
1st	=	4th
2d	=	5th
3d	=	6th

A SYNOPSIS OF

Abbreviated

TEST — **CREDITS**

1. Reaction to three Binet pictures.
(a) Enumerates at least three objects in one picture (3), or ..... (31)
(b) Describes in terms of scenes or actions (4), or ..... (71)
(c) Interprets (6). Credit only the highest test passed ..... (121)

2. Self-orientation.
(a) Points to 3 of 4: eyes, nose, ears, mouth. (3) ..... (32)
(b) On request gives either family name, or sex. (3) ..... (33)
(c) Shows right hand, left ear, right eye. (1) ..... (61)

3. Repeats without error:
(a) The dog runs after the cat. (3) ..... (34)
(b) The boy's name is John. He is a very good boy. (1) ..... (41)
(c) Yesterday I saw a pretty little dog in the street.
He had curly brown hair, short legs, and a long tail. (2) ..... (161)

4. Repeats digits in order:

(a)	641	352	837	(3)	(35)
(b)	2759	8425	1962	(1)	(42)
(c)	59317	42583	59617	(1)	(72)
(d)	738495	527618	948371	(1)	(101)
(e)	2153746	8247596	6291738	(2)	(141)
(f)	59384726	25179384	13792658	(2)	(181)

5. Copies figures.
(a) Square. (1) (Pencil, 1 of 3) ..... (43)
(b) Diamond. (1) ..... (73)

6. Compares correctly.
(a) Lines differing by 1 cm. in length. (1) (2 of 3 trials) ..... (44)
(b) Weights of 3 and 15 grams. (1) ..... (51)

7. Comprehends obligation.
(a) First intention. (1) When you are tired ..... (45)
When you are cold.
When you are hungry.
(b) Second intention. (1) Raining when you start to school ..... (62)
Find your house on fire.
Miss your train.
(c) Third intention. (1) Broken something ..... (81)
Late to school.
Struck by playmate.

8. Chooses prettier pictures.
1. 2. 3. (1) (All correct) ..... (52)

9. Sees that pictures lack (3 of 4)
(1) Arms, (2) Nose, (3) Mouth, (4) Eye, (1) ..... (63)

10. Defines concrete words.
(a) In terms of use or better. (1) (3 of 4) ..... (53)
(1) Chair.
(2) Horse.
(3) Fork.
(4) Doll.
(b) In terms better than use. (1) (3 of 4) ..... (82)
(1) Balloon.
(2) Tiger.
(3) Football.
(4) Soldier.

11. Concrete problems:
(a) Divided triangle. (1) (2 of 3 trials, 1 min. each) ..... (54)
(b) Three commissions in order. (1) (No error) ..... (55)
(c) Correctly counts 13 pennies. (1) (1 of 2) ..... (64)
(d) Correct change twice in three trials. (1) ..... (91)
10−4= ; 15−12= ; 25−4=
(e) Gives value of stamps: 3×2+3×1. (1) (1 of 2) ..... (93)

12. Time orientation.
(a) Morning or afternoon. (1) ..... (65)
(b) Names of the days of the week in order. (1) (1 of 2; 15″) ..... (74)
(c) The date correct to three days. (1) ..... (92)

13. Names differences from memory.
(a) One real difference in each of two of the following. (1) ..... (75)
(1) Fly and butterfly.
(2) Stone and egg.
(3) Wood and glass.
(b) Differences between abstract terms. (2) (3 of 4) ..... (162)
(1) Laziness and idleness.
(2) Evolution and revolution.
(3) Poverty and misery.
(4) Character and reputation.

CREDITS	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
TOTAL	

TEST	CREDITS
14. Counting backward. 20-0, one error, 40 seconds. (1) Time= ..... (83)	14
15. The problem of the ball in the field. (a) Inferior plan. (1) ..... (84) (b) Superior plan. (2) ..... (122)	15
16. Arranges weights in order. (a) Five weights, three trials, one correct. (1) ..... (94) (Subject may use only one hand.)	16
17. Constructs sentence. (a) Simple sentence or not over two coördinate clauses. (1) ..... (95) (1) Boy, river, ball. (2 of 3; may be oral.) (2) Work, money, men. (3) Clouds, rivers, lakes.	17
18. Discovers absurdity. (4 of 5 correct.) Spontaneous correction allowed. (1) ..... (102) (1) Road to and from the city. (2) The more cars the faster. (3) The body of the girl. (4) The unfortunate cyclist. (5) Guide-post directions.	18
19. Reproduces designs from memory. One correct, one half correct. Exposure 10″. (1) ..... (103)	19
20. Gives 60 words in three minutes. (Note method followed, and indicate rate above.) (1) ..... (104)	20
21. Reconstructs dissected sentences. (2 of 3 correct; 1 minute each.) (2) ..... (123) (1) (2) (3)	21
22. Defines abstract words. Three of the following five correct. (2) ..... (124) (1) Pity. (2) Revenge. (3) Charity. (4) Envy. (5) Justice.	22
23. Induction from paper cutting. (a) Rule by sixth folding. (2) Passed at ..... (142) (b) Draws creases and locates holes. (2) ..... (182)	23
24. Problems of implied fact. Two correct. (2) ..... (143) (1) Man walking in the woods near a city. (2) Neighbor has visitors. (3) White man walks sitting down.	24
25. Problems of sustained reasoning. (a) Reversed clock-hands. (2) (2 of 3; 4 min. each; error of 4 min.) ..... (144) (1) 6.22= Time= (2) 8.10= Time= (3) 2.46= Time= (b) Enclosed boxes. (2) (3 of 4; 30 seconds each) ..... (163) (1) 2 smaller, 1 inside each= (2) 2 smaller, 2 inside each= (3) 3 smaller, 3 inside each= (4) 4 smaller, 4 inside each= (c) Bring water from river. (2) (2 of 3; 5 minutes for each) ..... (183) (1) 7 pints with 3 and 5 pint vessels. (Start with 5 pints.) (2) 8 pints with 5 and 7 pint vessels. (Start with 5 pints.) (3) 7 pints with 4 and 9 pint vessels. (Start with 4 pints.)	25
26. Digits in reversed order. (1 of 3.) (a) 471952 295837 753826 (2) ..... (164) (b) 7258493 1462597 7359428 (2) ..... (184)	26
27. The Vocabulary test. (a) 20 words defined. (1) ..... (85) (b) 30 words defined. (2) ..... (105) (c) 40 words defined. (4) ..... (125) (d) 50 words defined. (6) ..... (145) (e) 60 words defined. (8) ..... (165) (f) 75 words defined. (10) ..... (185)	27
TOTAL,	

VOCABULARY

1. orange
2. bonfire
3. roar
4. gown
5. tap
6. scorch
7. puddle
8. envelope
9. straw
10. rule
11. haste
12. afloat
13. eye-lash
14. copper
15. health
16. curse
17. guitar
18. mellow
19. pork
20. impolite
21. plumbing
22. outward
23. lecture
24. dungeon
25. southern
26. noticeable
27. muzzle
28. quake
29. civil
30. treasury
31. reception
32. ramble
33. skill
34. misuse
35. insure
36. stave
37. regard
38. nerve
39. crunch
40. juggler
41. majesty
42. brunette
43. snip
44. apish
45. sportive
46. hysterics
47. Mars
48. repose
49. shrewd
50. forfeit
51. peculiarity
52. coinage
53. mosaic
54. bewail
55. disproportionate
56. dilapidated
57. charter
58. conscientious
59. avarice
60. artless
61. priceless
62. swaddle
63. tolerate
64. gelatinous
65. depredation
66. promontory
67. frustrate
68. milksop
69. philanthropy
70. irony
71. lotus
72. drabble
73. harpy
74. embody
75. infuse
76. flaunt
77. declivity
78. fen
79. ochre
80. exaltation
81. incrustation
82. laity
83. selectman
84. sapient
85. retroactive
86. achromatic
87. ambergris
88. casuistry
89. paleology
90. perfunctory
91. precipitancy
92. theosophy
93. piscatorial
94. sudorific
95. pärterre
96. homunculus
97. cameo
98. shagreen
99. limpet
100. complot

NOTE: The number of correct definitions multiplied by 180 equals the entire vocabulary.

TABLE SHOWING PER CENT. PASSING VARIOUS TESTS.

TEST NO:		COL. GIRLS	COL. BOYS	WHITE GIRLS	WHITE BOYS	COL. GROUP	WHITE GROUP
1	a:	100	100	100	100	100	100
	b:	100	100	100	100	100	100
	c:	79	79	82	75.3	79.3	79.3
2	a:	100	100	100	100	100	100
	b:	100	100	100	100	100	100
	c:	97	95.8	100	100	96.5	100
3	a:	100	100	100	100	100	100
	b:	100	100	100	100	100	100
	c:	14.7	12.5	14.7	8.3	13.8	12
4	a:	100	100	100	100	100	100
	b:	100	100	100	100	100	100
	c:	97	100	97	100	98.27	98.27
	d:	82.35	95.83	91	79.16	88-	86.2
	e:	55.9-	58.33	55.9	54.12	57-	55.17
	f:	14.7	25	26.47	12.5	19	20.7
5	a:	100	100	100	100	100	100
	b:	100	100	100	100	100	100
6	a:	100	95.83	100	100	98.27	100
	b:	100	100	100	100	100	100
7	a:	100	100	100	100	100	100
	b:	100	100	100	100	100	100
	c:	94	95.83	100	100	94.82	100
8		100	100	100	100	100	100
9		100	100	100	100	100	100
10	a:	100	100	100	100	100	100
	b:	91.17	100	97	95.83	94.82	96.55
11	a:	100	100	100	100	100	100
	b:	97	100	100	100	94.27	100
	c:	100	100	100	100	100	100
	d:	100	95.83	100	100	98.27	100
	e:	91.17	95.83	100	95.83	93	98.27

TABLE (Continued)

TEST NO:	COL. GIRLS	COL. BOYS	WHITE GIRLS	WHITE BOYS	COL. GROUP	WHITE GROUP
12 a:	88.23	87.5	91.17	87.5	88-	89.65
b:	97	100	100	100	98.27	100
c:	100	87.5	100	87.5	94.82	94.82
13 a:	100	100	100	100	100	100
b:	14.7	8.33	44	37.5	12	41.38
14	94	91.66	100	100	93	100
15 a:	97	95.83	97	91.66	96.55	94.82
b:	52.94	62.5	64.7	41.66	57-	62
16	70.6	62.5	91.17	79.16	67.24	86.2
17	100	100	100	100	100	100
18	70.6	66.66	94	87.5	69-	91.38
19	70.6	75	85.6	87.5	72.4	86.2
20	85.6-	79.16	88.23	83.33	82.75	86.2
21	47	41.66	85.3	83.33	44.82	84.48
22	50	45.83	82.35	87.5	48.27	84.48
23 a:	44	62.5	44	58.33	51.72	50
b:	26.47	25	59-	45.83	25.86	51.72
24	52.94	66.66	58.82	66.66	58.62	62
25 a:	55.88	62.5	61.76	37.5	58.62	51.72
b:	26.47	41.66	38.23	41.66	32.76	39.65
c:	5.88	8.33	11.76	8.33	6.9	10.34
26 a:	17.64	25	32.35	37.5	20.7-	34.48
b:	0	4.16	14.7	12.5	1.72	13.8

one at a time, accompanied by the stimulation, "Tell me about this picture", leaving the subject at liberty to choose his method of reaction, whether enumeration, description, or interpretation, the latter reaction, of course, receiving the highest credit. It is a significant fact that in this test an equal number of white and colored children, 46, or 79.3 per cent. choose interpretation, the remaining 12 choosing description as their mode of reaction. The same per cent. of colored girls as colored boys react by interpretation.

The second test group, comprising three different tests, but all of the same type, relating to self-orientation, should offer no difficulty to junior high school pupils, being tests for three and six years. As a matter of fact, however, we find one colored boy, or 4.2 per cent., and one colored girl, or 3 per cent., who have not yet learned to distinguish right from left and vice versa.

Our findings in the third test, which is essentially one of rote memory, are in harmony with those of Phillips[8] and Morse[7] who find that colored children excel in this type of test, though in this case the excellence is very slight, indeed. Tests a and b of this group are three and four year tests re-

spectively, so we naturally expect pupils of the age tested to have no difficulty with them. In test c, however, which is a test for sixteen years (repeating 26 syllables), 8 colored children, or 13.8 per cent., are successful whereas only 7 whites, or 12 per cent., are able to pass it. The colored girls are slightly superior to the colored boys.

The fourth test, repeating digits in order, bears out the result of the preceding test. Here we find 57 per cent. of the colored children able to pass e and f, the fourteen and eighteen year tests respectively, while 55 per cent. of the white children are successful in them.

Test number five, copying a square and a diamond, four and seven year tests respectively, as we should expect, give no difficulty to either group.

Test number six, choosing the longer of two lines, a, and the heavier of two weights, b, seemingly offers no difficulty save to one colored boy who, probably because of visual or auditory dysgnosia, chooses the shorter line for the longer one in each of three trials.

The seventh test which involves the comprehension of suggested situations and the proper method

of meeting them, comprises three groups of tests, one for four, six, and eight years respectively. We expect children of junior high school age to be sufficiently mature mentally to comprehend all the situations presented. As a matter of fact, however, we find two colored girls, or 6 per cent., and one colored boy, or 4.16 per cent., 5 per cent. of the colored group, unable to meet the imaginary situations which the eight year test involves.

The eighth test, which involves aesthetic judgment, the choice of the prettier picture in three pairs of faces, and the ninth test, essentially a picture completion test, are five and six year tests respectively and consequently offer no apparent difficulty to pupils of the age tested.

Test number ten, including two groups of words to be defined, throws much light on the intellectual maturity of the subject. For the first group of words, definitions in terms of use are accepted; however, the second group must be defined by description or classification, and we find three colored girls, 8.82 per cent., one white girl, 3 per cent., and one white boy, 4.16 per cent., still defining in terms of use.

A series of five concrete problems constitutes

the eleventh test. A total of seven failures was made in this test, 85 per cent. being made by the colored children and 66.66 per cent. of this number being made in giving the value of three two-cent and three one-cent stamps. The only failure made by the whites was made on this test also.

Our findings in test number twelve, which is one in time-orientation, do not agree with Morse's[7] who found that the colored children excel in this test. In this instance, 19 per cent. of the colored children fail some one of the three tests constituting this group, while only 15 per cent. of the whites fail. The most failures in either race are due to an inaccurate knowledge of the time "it gets to be afternoon."

The thirteenth test which involves analytic association presents difficulties for both races in b in which differences between abstract terms are required. We find 85 per cent. of the colored girls and 91.66 per cent. of the colored boys unable to give a satisfactory response. 59 per cent. of the white children as compared with 88 per cent. of the colored, also find difficulty here.

We expect a standard eight year test to present no difficulty to those children who have reached

junior high school age. However, test number fourteen, counting backward from 20 to 1, is failed by 7 per cent. of the colored boys and girls, 8 per cent. of the former and 6 per cent. of the latter being unable to pass it.

Test number fifteen consists of the ball-and-field problem, two solutions being acceptable, one for eight year, the other for twelve year credit. Two white boys and one subject from each of the other three groups fail the test entirely because of no definite plan of search. The colored boys display more practical judgment here than do the colored girls, 62.5 per cent. of the former offering a superior plan for the solution of the problem as compared with 53 per cent. of the latter. The difference between the two races is not marked, 62 per cent. of the whites offering a superior plan in comparison with 57 per cent. of the colored.

Practical judgment combined with motor adaptation function to a large extent in test number sixteen, which requires the subject twice out of three trials to arrange in decreasing order five blocks ranging in weight from 15 to 3 grams. We find the colored girls superior to the colored boys here, 29 per cent. of the former as compared with 37.5 per cent. of the latter failing it. The difference between sexes is even

greater in the white race, almost 9 per cent. of the white girls and nearly 21 per cent. of the white boys failing. The two races show a marked difference in ability, 33 per cent. of the colored and 14 per cent. of the white children failing.

Test number seventeen, constructing three sentences, using three certain words in each sentence, is a nine year test and this is passed without exception, as we naturally expect it to be by children of the age tested.

The ability to detect absurdities in sentences, test number eighteen, perhaps comes nearer testing native practical intelligence, or what we commonly designate as common sense, than any other test in the entire series. The absurdity must be discovered in four out of five sentences in order to receive credit. The colored girls show greater ability here than do the colored boys, 29 per cent. of the former and 33 per cent. of the latter failing it. 6 per cent. of the white girls and 12.5 per cent. of the white boys fail it also, showing a wider gap between the two sexes than in the colored race. Considering the two races, more than three times as many colored as white children fail it, the per cent. being 31 for the former and 9 for the lat-

ter.

The relative ability shown by the two sexes in each race is the reverse in test nineteen, which is a test of ability to draw two designs from memory, of that shown in the preceding test. In test number nineteen, 29.4 per cent. of colored girls compared with 25 per cent. of the colored boys, and 14.7 per cent. of white girls and 12.5 per cent. of white boys fail it. The ratio of racial failures is seen to be practically two to one, 27.6 per cent. of the colored and 13.8 per cent. of the whites being unsuccessful.

Scoring in the twentieth test, which is one of free association, merely takes account of the number of words given by the subject in three minutes. A passing credit requires that at least sixty words be named in the allotted time. We find a larger per cent. of the boys in both races failing this test, 20.8 per cent. of colored boys, 14.7 per cent. colored girls, 16.66 per cent. white boys, and 11.7 per cent. white girls being unable to give the required number. The racial difference is not marked, 17 per cent. of the colored and 14 per cent. of the whites failing to score. The accompanying correlation tables showing the correlation between number of words given and the I.Q. reveal the fact that the correlation of the colored children

is slightly higher, being .4669 as compared with .4056 for the white children. Terman[12] says that success does not depend solely upon the size of the vocabulary. The correlation between this test and number twenty-seven, which is a vocabulary test, is .4363 for the colored and .3232 for the whites, which would seem to indicate that the relation between ability in these two tests is much more marked in the case of the colored children. The mean number of words given by the colored children in three minutes is 74.6, while that given by the white children is 80.

I.Q.	RANK	TEST 20	RANK	D	D^2	COLORED
64	1	50	5	4	16.	
65	2.5	33	1	1.5	2.25	
65	2.5	57	10	7.5	56.25	
66	4.5	81	38	33.5	1122.25	
66	4.5	51	6	1.5	2.25	
68	6	69	26	20	400.	
70	7	70	29	22	484.	
72	8.5	60	12	3.5	12.25	
72	8.5	66	22	13.5	182.25	
76	10	61	14	4	16.	
77	11.5	60	12	.5	.25	
77	11.5	97	50	38.5	1482.25	
78	13.5	47	2.5	11	121.	
78	13.5	84	41	27.5	756.25	
80	15	47	2.5	12.5	156.25	
82	17	54	8	9	81.	
82	17	98	51	34	1156.	
82	17	73	33.5	16.5	272.25	
85	19.5	56	9	10.5	110.25	
85	19.5	89	44	24.5	600.25	
86	22.5	65	18	4.5	20.25	
86	22.5	104	55	32.5	1056.25	
86	22.5	65	18	4.5	20.25	
86	22.5	60	12	10.5	110.25	

COLORED (Continued)

I.Q.	RANK	TEST 20	RANK	D	D^2
87	25	65	18	7	49.
88	26.5	83	40	13.5	182.25
88	26.5	86	42	15.5	240.25
89	29.5	48	4	25.5	650.25
89	29.5	52	7	22.5	506.25
89	29.5	75	35	5.5	30.25
89	29.5	93	46	16.5	272.25
90	34	69	26	8	64.
90	34	89	44	10	100.
90	34	95	48	14	196.
90	34	69	26	8	64.
90	34	65	18	16	256.
91	37	82	39	2	4.
92	39.5	71	31.5	8	64.
92	39.5	125	58	18.5	342.25
92	39.5	73	33.5	6	36.
92	39.5	99	52.5	13	169.
93	43.5	67	23	20.5	420.25
93	43.5	65	18	25.5	650.25
93	43.5	79	37	6.5	42.25
93	43.5	65	18	25.5	650.25
95	46	95	48	2	4.
97	47	70	29	18	324.
99	48	103	54	6	36.
100	49	89	44	5	25.
102	50	99	52.5	2.5	6.25
103	51	105	56	5	25.
104	52	106	57	5	25.
105	53	95	48	5	25.
106	54	70	29	25	625.
108	55	78	36	19	361.
112	56	71	31.5	24.5	600.25
123	57	68	24	33	1089.
136	58	65	18	40	1600.
					17970.50
					6
					107823.00

$N(N^2-1)=195054$

$107823.00 \div 195054 = .55$

$1.00-.55=.45$

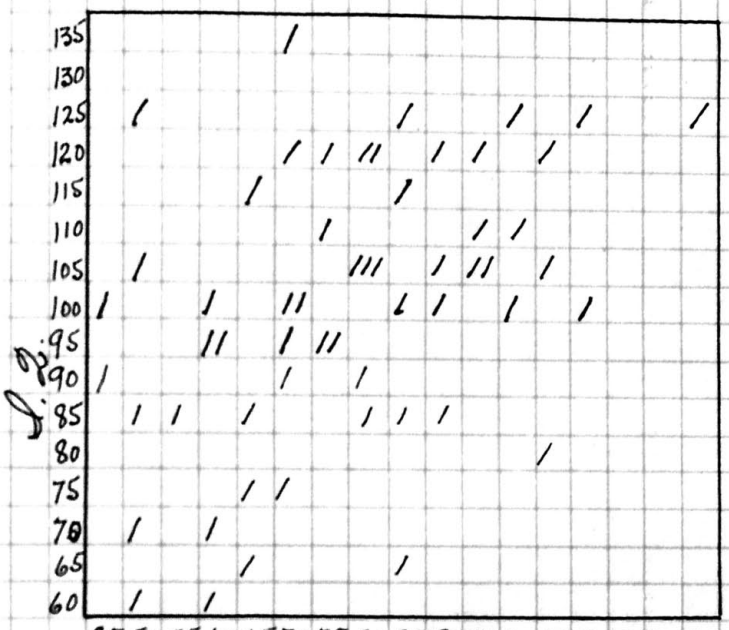
$r=.4669$

WHITES.

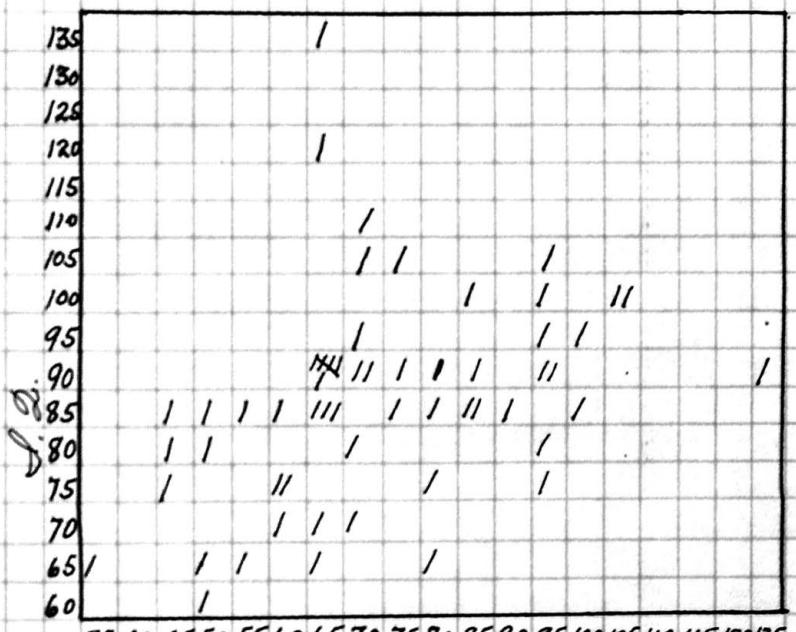
62	1	61	11	10	100.
64	2	51	3.5	1.5	2.25
67	3	65	14	11	121.
69	4	88	39	35	1225.
73	5	60	9.5	4.5	20.25

WHITES (Continued)

I.Q.	RANK	TEST 20	RANK	D	D^2
74	6	52	5.5	.5	.25
79	7.5	67	16.5	9	81.
79	7.5	74	23.5	16	256.
84	9	108	55	46	2116.
85	10.5	67	16.5	6	36.
85	10.5	92	41.5	31	961.
86	12	83	32.5	20.5	420.25
87	13	53	7	6	36.
88	14.5	88	39	24.5	600.25
88	14.5	59	8	6.5	42.25
93	16	48	2	14	196.
94	17.5	83	32.5	15	225.
94	17.5	72	18.5	1	1.
96	19	78	27.5	8.5	72.25
97	20	105	52.5	32.5	1056.25
98	21	64	13	8	64.
99	23	62	12	11	121.
99	23	75	25.5	2.5	6.25
99	23	74	23.5	.5	.25
100	26	73	21	5.	25.
100	26	60	9.5	16.5	272.25
100	26	101	49	23	529.
101	28.5	45	1	27.5	756.25
101	28.5	92	41.5	13	169.
102	30.5	110	56	25.5	650.25
102	30.5	86	36.5	6	36.
104	32	73	21	11	121.
105	33	52	5.5	27.5	756.25
106	35	84	34.5	.5	.25
106	35	82	31	4	16.
106	35	105	52.5	17.5	306.25
108	37.5	97	46	8.5	72.25
108	37.5	84	34.5	3	9.
109	39.5	93	43.5	4	16.
109	39.5	97	46	6.5	42.25
110	41	102	50.5	9.5	90.25
111	42	97	46	4	16.
112	43	75	25.5	17.5	306.25
117	44	86	36.5	7.5	56.25
119	45	66	15	30	900.
120	46.5	93	43.5	3	9.
120	46.5	106	54	7.5	56.25
122	49	78	27.5	21.5	462.25
122	49	80	29.	20	400.
122	49	98	48	1	1.
123	51	73	21	30	900.
124	52	81	30	22	484.



Test No. 20 N = .4056 Whites.



Test No. 20 N = .4669 Colored.

WHITES (Continued)

I.Q.	RANK	TEST 20	RANK	D	D^2
125	53.5	88	39	14.5	210.25
125	53.5	112	57	3.5	12.25
126	55	51	3.5	51.5	2652.25
128	56	102	50.5	5.5	30.25
129	57	127	58	1	1.
137	58	72	18.5	39.5	1560.25
					19784.00

$N(N^2-1)=195054$

$1.00-.608=.392$

$r=.4056$

$\frac{118704.00}{6}+195054=.608$

COLORED.

TEST 20	RANK	TEST 27	RANK	D	D^2
70	29	38	30	1	1.
66	22	39	32	10	100.
60	12	38	30	18	324.
47	2.5	35	22.5	20	400.
73	33.5	45	45.5	12	144.
75	35	44	43	8	64.
93	46	40	35	11	121.
89	44	34	18	26	676.
95	48	46	48	0	0.
99	52.5	40	35	17.5	306.25
73	33.5	48	51.5	18	324.
125	58	47	49.5	8.5	72.25
67	23	43	41.5	18.5	342.25
103	54	47	49.5	4.5	20.25
89	44	42	39.5	4.5	20.25
105	56	45	45.5	10.5	110.25
71	31.5	48	51.5	20	400.
70	29	32	14.5	14.5	210.25
97	50	29	6	44	1936.
65	18	54	56	38	1444.
50	5	30	9	4	16.
81	38	30	9	29	841.
61	14	35	22.5	8.5	72.25
60	12	20	1	11	121.
47	2.5	34	18	15.5	240.25
56	9	27	3	6	36.
65	18	36	26	8	64.
52	7	30	9	2	4.
95	48	52	54.5	6.5	42.25
69	26	28	4.5	21.5	462.25
99	52.5	43	41.5	11	121.
70	29	40	35.	6	36.
60	12	25	2	10	100.
65	18	32	14.5	3.5	12.25

COLORED (Continued)

TEST 20	RANK	TEST 27	RANK	D	D^2	D^2
35	1	34	18	17		289.
83	40	31	12.5	27.5		756.25
54	8	40	35	27		729.
82	39	35	22.5	16.5		272.25
89	44	34	18	26		676.
48	4	31	12.5	8.5		72.25
65	18	55	57	39		1521.
79	37	36	26	11		121.
95	48	57	58	10		100.
57	10	28	4.5	5.5		30.25
69	26	35	22.5	3.5		12.25
51	6	30	9	3		9.
98	51	36	26	25		625.
86	42	45	45.5	3.5		12.25
65	18	38	30	12		144.
104	55	37	28	27		729.
69	26	52	54.5	28.5		812.25
65	18	40	35	17		289.
71	31.5	34	18	13.5		182.25
65	18	42	39.5	21.5		462.25
106	57	45	45.5	11.5		132.25
78	36	41	38	2		4.
68	24	50	53	29		841.
84	41	30	9	32		1024.
						19029.50
						6

$N(N^2-1)=195054$

$114177.00+195054=.58$

$1.00-.58=.42$

$r=.4363$

84	34.5	45	20.5	14	196.	WHITES.
61	11	23	1	10	100.	
51	3.5	38	10	6.5	42.25	
105	52.5	56	45	7.5	56.25	
97	46	45	20.5	25.5	650.25	
78	27.5	42	16.5	11	121.	
60	9.5	45	20.5	11	121.	
48	2	40	13.5	11.5	132.25	
88	39	36	6.5	32.5	1056.25	
73	21	50	34.5	13.5	182.25	
78	27.5	51	37	9.5	90.25	
81	30	48	29.5	.5	.25	
67	16.5	36	6.5	10	100.	
93	43.5	55	42.5	1	1.	
93	43.5	60	53	9.5	90.25	
67	16.5	50	34.5	18	324.	

WHITES (Continued)

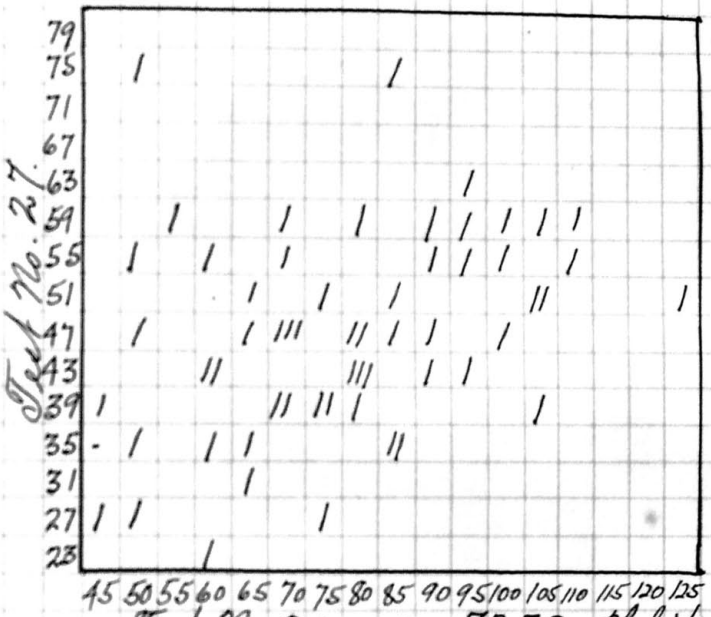
TEST 20	RANK	TEST 27	RANK	D	D^2
80	29	60	53	24	576.
45	1	27	2	1	1.
88	39	38	10	29	841.
110	56	56	45	11	121.
92	41.5	45	20.5	21	441.
53	7	47	26	19	361.
88	39	78	58	19	361.
92	41.5	48	29.5	12	144.
51	3.5	75	57	53.5	2862.25
60	9.5	46	24	14.5	210.25
62	12	57	47.5	35.5	1260.25
83	32.5	45	20.5	12	144.
52	5.5	57	47.5	42	1764.
86	36.5	49	32	4.5	20.25
74	23.5	40	13.5	10	100.
82	31	45	20.5	10.5	110.25
97	46	58	49	3	9.
98	48	66	56	8	64.
59	8	59	50.5	42.5	1806.25
102	50.5	50	34.5	16	256.
101	49	55	42.5	6.5	42.25
64	13	38	10	3	9.
112	57	52	38.5	18.5	342.25
127	58	52	38.5	19.5	380.25
84	34.5	47	26	8.5	72.25
105	52.5	50	34.5	18	324.
102	50.5	59	50.5	0	0.
73	21	48	29.5	8.5	72.25
75	25.5	30	4	21.5	462.25
86	36.5	53	40	3.5	12.25
108	55	48	29.5	25.5	650.25
72	18.5	47	26	7.5	56.25
65	14	34	5	9	81.
97	46	60	53	7	49.
83	32.5	42	16.5	16	256.
72	18.5	56	45	26.5	702.25
106	54	37	8	46	2116.
73	21	61	55	34	1156.
75	25.5	41	15	10.5	110.25
74	23.5	39	12	11.5	132.25
52	5.5	29	3	2.5	6.25
66	15	54	41	26	676.
					22424.00
					6

$N(N^2-1)=195054$

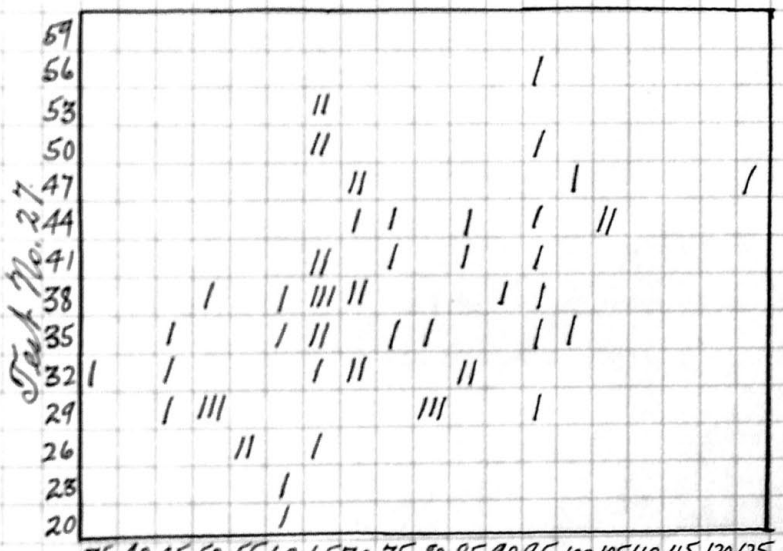
134544.00÷195054=.69

1.00-.69=.31

r=.3232



Test No. 20. $r = .3232$ Whites.



Test No. 20 $r = .4363$ Colored

The twenty-first test, reconstructing dissected sentences, might be regarded as a variation of the completion test. Ferguson,[4] who used, among others, a completion test in an experimental study with the colored children of Richmond, Fredericksburg, and Newport News, Virginia found that the colored children did 78.7 per cent. as well as the whites. Our findings show the colored children much lower in ability than this, 52.9 per cent. colored girls and 58 per cent. of the colored boys as compared with 14.7 per cent. of the white girls and 16.66 per cent. of the white boys failing test number twenty-one. Scarcely 45 per cent. of the colored children are successful, while 84.5 per cent. of the whites are able to meet the requirements, giving 53 per cent. as the relative efficiency of colored and white.

The comprehension of abstract ideas requires "the logical processes of comparison, abstraction, and generalization."[12] Test number twenty-two calls for the definition of five abstract terms, requiring that three be correct for success in the test. We find the colored children sadly deficient in the logical processes required, for 50 per cent. of the colored girls and 54 per cent. of the colored boys, or 52 per cent. of the

colored race, fail the test as compared with 15.5 per cent. of the white children, there being more than three times as many failures among the colored as white children.

Higher thought processes than those involved in any of the preceding tests are required for success in test number twenty-three, comprising two distinct tests but of similar character. Number twenty-three a requires that the subject find the rule operating to regulate the number of holes in a paper which is folded one time more with each succeeding sheet, six sheets being used, and which is cut each time on the folded edge so as to make holes in the paper. Terman says,[12] "This test is little affected by schooling, and apart from differences in intelligence it is little influenced by age." We find the results of this test almost evenly balanced between the races, with a slight advantage for the colored children. 44 per cent. of the colored girls and 62.5 per cent. of the colored boys, or 51.7 per cent. of the combined groups are successful while only 50 per cent. of the white children pass it. For test number twenty-three b, a sheet of paper is folded once over in the middle, then a second time at right angles to the first fold. From what will be the center

of the paper when it is unfolded, a somewhat irregular figure is cut. Then the subject is given a pencil and a sheet of paper like the folded one and is requested to draw the lines to show the creases in the folded paper and also show what results from the cutting. Success in this test does not depend upon schooling but rather upon concentration and visual imagination. Results are very much different from those in number twenty-three a. 26.5 per cent. of the colored girls, 25 per cent. of the colored boys, or 25.86 per cent. of the colored children succeed in this test while twice as many white children, 51.7 per cent., are able to pass it. 20.7 per cent. of the colored children are able to pass both a and b as compared with 27.6 per cent. of the white children.

The twenty-fourth test is also in the nature of a completion test since the subject is required to furnish a complete situation from the elements given him. The colored boys are somewhat superior to the colored girls in this test, 66.66 per cent. of the former passing it in comparison with 53 per cent. of the latter. The difference between races is not striking, 58.6 per cent. of the colored succeeding as contrasted with 62 per cent. of the whites.

There are three distinct groups of tests comprising test number twenty-five. The first group, which relates to reversing the hands of a clock, requires a high degree of visual imagery. The colored boys rank highest, 62.5 per cent. passing it as compared with 56 per cent. of the colored girls. 58.6 per cent. of the colored group are successful as compared with 51.7 per cent. of the whites. The second group in test number twenty-five also requires visual imagery in a high degree for success in passing. This is a problem of determining the total number of boxes where one large box contains smaller ones, the smaller ones in turn containing tiny ones. As in number twenty-five a, the colored boys rank highest, 41.6 per cent. being successful as compared with 26.5 per cent. of the colored girls. A comparison of the races reverses the results of the preceding test, 33 per cent. of the colored and 40 per cent. of the whites scoring in the test. Terman[12] calls test twenty-five c a test of ingenuity. Certain it is that it requires inventiveness as well as judgment. The problem requires the exact measurement of a quantity of water, using two vessels only, neither one of which, nor a direct combination of them, will measure the quantity required. Here again the

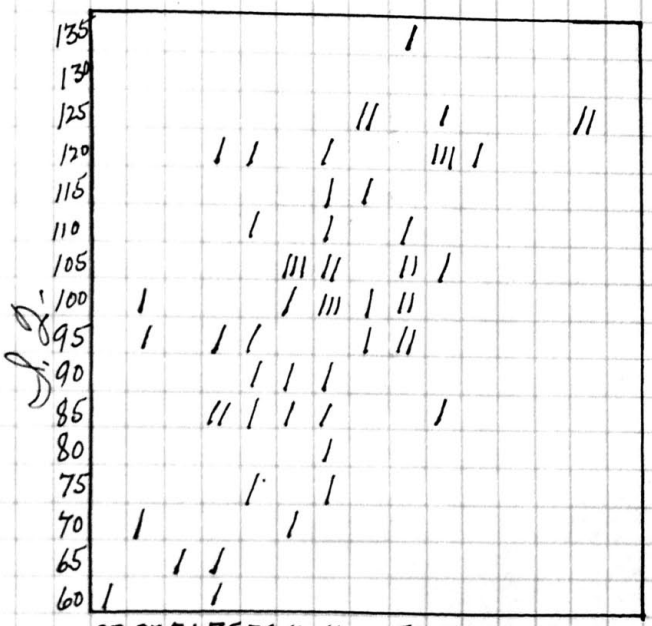
colored boys are superior to the girls, 8 per cent. of the former and 6 per cent. of the latter being ingenious enough to solve the problem. The colored group is slightly inferior to the white group, 7 per cent. of the former and 10 per cent. of the latter being successful.

Test number twenty-six consists of two tests, one for the adult of average intelligence and one for the adult of superior intelligence. The subject is required to repeat a series of digits in directly the reverse order. This requires a much higher degree of attention than is required to repeat them in a direct order. 25 per cent. of the colored boys are able to correctly repeat six digits, the average adult test, while only 17.6 per cent. of the colored girls are successful. The average for the colored children, 20.7 per cent., is considerably lower than that reached by the white children, 34.5 per cent. of the latter having met the requirements of the test. One colored boy of the entire number of 58 colored children, 1.72 per cent., passes the second part of the test, repeating seven digits in reverse order, while we find 8 white children, practically 13.8 per cent., able to do this.

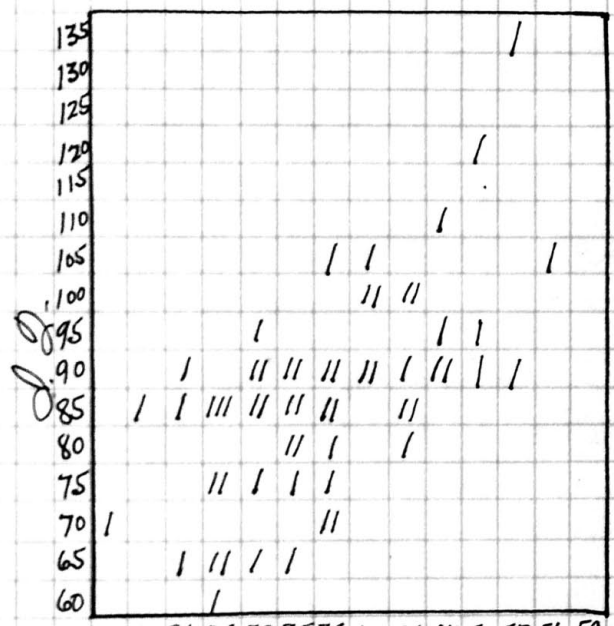
The last test of the series, the vocabulary

test, is perhaps the one of most value in the entire series. This fact was brought to the notice of the writer when the results of the tests were being tabulated that a large number of words defined almost invariably insured a high I.Q., whereas a small number bespoke a low I.Q. This test has, therefore, been correlated with the I.Q.'s of each race, as the accompanying tables indicate. The correlation is slightly higher for the colored children, r = .6676, than for the white children, r = .6180. Attention is invited to the fact that the mean number of words defined by the colored children is 38.48, whereas that for the whites is 48.24. 10 per cent. of the colored children exceed the mean performance of the whites, while on the other hand, 81 per cent. of the white children exceed the mean performance of the colored. These figures which do not vary a great deal from the per cent. of I.Q.'s above the mean for each of the other races, would seem to add value to the first statement in this paragraph.

(See bibliography, pages 50 & 51, for references.)



Test No. 27. $N = .618$ Whites.



Test No. 20. $N = 1,667$ Colored.

I.Q.	RANK	TEST 27	RANK	D	D^2	COLORED.
64	1	30	9	8	64.	
65	2.5	34	18	15.5	240.25	
65	2.5	28	4.5	2	4.	
66	4.5	30	9	4.5	20.25	
66	4.5	30	9	4.5	20.25	
68	6	35	22.5	16.5	272.25	
70	7	38	30	23	529.	
72	8.5	20	1	7.5	56.25	
72	8.5	39	32	23.5	552.25	
76	10	35	22.5	12.5	156.25	
77	11.5	38	30	18.5	342.25	
77	11.5	29	6	5.5	30.25	
78	13.5	34	18	4.5	20.25	
78	13.5	30	9	4.5	20.25	
80	15	35	22.5	7.5	56.25	
82	17	45	45.5	28.5	812.25	
82	17	40	35	18	324.	
82	17	36	26	9	81.	
85	19.5	27	3	16.5	272.25	
85	19.5	34	18	1.5	2.25	
86	22.5	36	26	3.5	12.25	
86	22.5	25	2	20.5	420.25	
86	22.5	37	28	5.5	30.25	
86	22.5	38	30	7.5	56.25	
87	25	32	14.5	10.5	110.25	
88	26.5	31	12.5	14	196.	
88	26.5	45	45.5	19	361.	
89	29.5	30	9	20.5	420.25	
89	29.5	44	43	13.5	182.25	
89	29.5	40	35	5.5	30.25	
89	29.5	31	12.5	17	289.	
90	34	28	4.5	29.5	870.25	
90	34	34	18	16	256.	
90	34	46	48	14	196.	
90	34	52	54.5	20.5	420.25	
90	34	40	35	1	1.	
91	37	35	22.5	14.5	210.25	
92	39.5	40	35	4.5	20.25	
92	39.5	48	51.5	12	144.	
92	39.5	47	49.5	10	100.	
92	39.5	34	18	21.5	462.25	
93	43.5	43	41.5	2	4.	
93	43.5	42	39.5	4	16.	
93	43.5	55	57	13.5	182.25	
93	43.5	36	26	17.5	306.25	
95	46	52	54.5	8.5	72.25	
97	47	32	14.5	32.5	1056.25	

I.Q.	RANK	TEST 27	RANK	D	D^2	COLORED.
99	48	47	49.5	1.5	2.25	(Con.)
100	49	42	39.5	9.5	90.25	
102	50	43	41.5	8.5	72.25	
103	51	45	45.5	5.5	30.25	
104	52	45	45.5	6.5	42.25	
105	53	57	58	5	25.	
106	54	40	35	19	361.	
108	55	41	38	17	289.	
112	56	48	51.5	4.5	20.25	
123	57	50	53	4	16.	
136	58	54	56	2	4.	
		58)2232			11253.50	
Mean No.W'ds.=		38.48			6	
		$N(N^2-1)$=195054			67521.00÷195054=	
		1.000-.346=.654			.346	
		r=.6676				

						WHITES.
62	1	23	1	0	0.	
64	2	38	10	8	64.	
67	3	34	5	2	4.	
69	4	36	6.5	2.5	6.25	
73	5	45	20.5	15.5	240.25	
74	6	29	3	3	9.	
79	7.5	40	13.5	6	36.	
79	7.5	50	34.5	27	729.	
84	9	48	29.5	20.5	420.25	
85	10.5	36	6.5	4.	16.	
85	10.5	45	20.5	10	100.	
86	12	42	16.5	4.5	20.25	
87	13	47	26	13	169.	
88	14.5	59	50.5	36	1296.	
88	14.5	38	10	4.5	20.25	
93	16	40	13.5	2.5	6.25	
94	17.5	45	20.5	3	9.	
94	17.5	47	26	8.5	72.25	
96	19	51	37	18	324.	
97	20	56	45	25	625.	
98	21	38	10	11	121.	
99	23	57	47.5	24.5	600.25	
99	23	30	4	19	361.	
99	23	39	12	11	121.	
100	26	46	24	2	4.	
100	26	55	42.5	16.5	272.25	
100	26	50	34.5	8.5	72.25	
101	28.5	27	2	26.5	702.25	

WHITES. (Con.)

I.Q.	RANK	TEST 27	RANK	D	D^2
101	28.5	48	29.5	1	1.
102	30.5	53	40	9.5	90.25
102	30.5	56	45	14.5	210.25
104	32	48	29.5	2.5	6.25
105	33	57	47.5	14.5	210.25
106	35	45	20.5	14.5	210.25
106	35	50	34.5	.5	.25
106	35	45	20.5	14.5	210.25
108	37.5	47	26	11.5	132.25
108	37.5	45	20.5	17	289.
109	39.5	60	53	13.5	182.25
109	39.5	55	42.5	3	9.
110	41	50	34.5	6.5	42.25
111	42	58	49	7	49.
112	43	41	15	28	784.
117	44	49	32	12	144.
119	45	54	41	4	16.
120	46.5	37	8	38.5	1482.25
120	46.5	60	53	6.5	42.25
122	49	66	56	7	49.
122	49	42	16.5	32.5	1056.25
122	49	60	53	4	16.
123	51	61	55	4	16.
124	52	48	29.5	22.5	506.25
125	53.5	52	38.5	15	225.
125	53.5	78	58	4.5	20.25
126	55	75	57	2	4.
128	56	59	50.5	5.5	30.25
129	57	52	38.5	18.5	342.25
137	58	56	45	13	169.
		58)2798			12966.00
					6
Mean No.W'ds.=48.24					77796.00÷195054=
		$N(N^2-1)=195054$			.398
		1.000-.398=.602			
		r=.618			

CHAPTER IV.

CONCLUSIONS.

The limitations of this study are obvious to no one more clearly than to the writer. To attempt to settle definitely this much mooted question of racial merit and demerit by means of the evidence herewith presented would be rashness in the Nth degree. If race prejudice has been a factor in this study, it has been in favor of the colored race. The question has insistently arisen, "Would the white race, subjected to the same conditions as the negro has endured, reach the present plane of efficiency of the latter?"

The purpose of this study has already been stated. In reviewing the evidence bearing upon the first phase of this problem, we find that the mean chronological age of colored children in the Lawrence Junior High School is higher by .6 of a year than for white children, whereas the mean mental age for the whites is 1.25 years higher. 15.5 per cent. of the whites exceed the highest mental age reached by the colored. The mean I.Q. of the whites is in excess of that of the colored by 13.36 points. There is also a greater variation from the mean among the white children. The mean I.Q. of the colored children is 86.8

per cent. of that of the whites. We therefore conclude that while the negro child of junior high school attainments is somewhat older chronologically than the white child, he is younger mentally and that his native intellectual endowment as determined by the Binet tests is little better than 85 per cent. that of the white child.

Relative to the second phase of the problem, we find little difference between the two sexes of the colored race, the mean I.Q. for both being approximately identical. The same condition of affairs is noted throughout the various tests. In one test of a certain type the colored girls are slightly superior, while another test of the same type will show the boys superior. The differences in any case are not marked.

In reviewing the available evidence which bears upon the third phase of our problem, our findings are not inharmonious, for the most part, with others who have studied the same problem. In rote memory the colored children excel to a slight degree. In visual imagery there is no appreciable racial difference, one test involving it being passed by a higher per cent. of colored children and another showing an advantage in favor of the whites. In the simple receiving and discharging parts of the reaction arc, negligible differ-

ences exist. However, in the central functions, association, judgment, sustained attention, those upon which abstract thought depends more directly, differences do exist. In only two instances, about 13 per cent. of the cases where the higher thought processes are markedly involved, do we find the colored children superior. The language facility of the colored child seems most strikingly deficient. How much of this deficiency is due to environment and how much to native intelligence, this study does not undertake to estimate.

The evidence herewith presented seems clearly to indicate a mental difference, not as marked, however, as many would have us to believe. While we do not expect to see, for some time at least, the negro taking a place in the intellectual world alongside the white race, we do hope to see him solving the problems of his own people in a more effectual way than can ever be done by another race.

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